

# AN ANNOTATED SPECIES LIST OF INSECT HERBIVORES COMMONLY ASSOCIATED WITH BLACK LOCUST, *ROBINIA PSEUDOACACIA*, IN THE SOUTHERN APPALACHIANS<sup>1</sup>

William W. Hargrove<sup>2</sup>

**ABSTRACT:** An annotated species list is presented as an aid to identification of phytophagous insects found on black locust, *Robinia pseudoacacia*, in the southern Appalachians. The list, containing 75 species, is annotated regarding host preference, presence in southern Appalachians, abundance, and host specificity.

This annotated species list (Table 1) is intended for foresters and ecologists not trained in insect taxonomy as an aid in the identification of insects causing damage to black locust, *Robinia pseudoacacia* L. The list is not claimed to be exhaustive, but includes most insects known to have *R. pseudoacacia* as a preferred host as well as those commonly encountered on *R. pseudoacacia*. Generalist phytophages that can reach pest abundance on this host have been included, although generalists that are only occasional black locust feeders may not be on the list.

Insects associated with *R. pseudoacacia* trees located at the Coweeta Hydrologic Laboratory, owned and operated by the United States Forest Service and located about 25 km south of Franklin, North Carolina, were studied as representative of the southern Appalachians. The list was compiled during several concurrent studies (Seastedt et al. 1983, Hargrove et al. 1984) as a part of the National Science Foundation Long Term Ecological Research program at Coweeta.

The list supplements several sources (Craighead 1950, Schaffner 1953, Baker 1972), and includes 75 species. Nomenclature conforms to recent taxonomic catalogs for the various groups (Van Duzee 1917, Leng 1920, Metcalf 1954-1966, Krombein et al. 1979, Hodges et al. 1983).

## Organization of the list

Associated insects are grouped into feeding guilds according to the part of the host that they affect, facilitating the identification of unknown insects. Subheadings within feeding guilds appear in phyletic sequence. Under each subheading, insect families are arranged phyletically. Genus, species, and author are listed first, then common name, and finally family. Common names conform to the ESA list of proper common names

<sup>1</sup>Received May 6, 1985. Accepted October 23, 1985.

<sup>2</sup>Institute of Ecology and Department of the Entomology, University of Georgia, Athens, GA 30602.

(Werner, F.G. 1982) unless they appear in brackets. Common names appearing in brackets are not recognized by the ESA but have been included to aid in identification. Because of space limitation, no attempt has been made to list synonyms for common or scientific names. Genera appear in alphabetical order within families.

Numbers and letters in superscript refer to footnotes for Table 1. Sources for host records are referenced by numbers, while short mnemonics describe annotations concerning presence in southern Appalachians, abundance, and host specificity. To avoid long annotations, no sources are listed for insect species which are very common on *R. pseudoacacia*. Verification of presence in the southern Appalachians is indicated next. This verification represents visual recognition with museum specimens, and does not indicate specific determination by an expert in the group. Species not showing the verified annotation may or may not be present in the southern Appalachians. A rough abundance classification is indicated next, followed by an annotation regarding host preference.

Table 1. An annotated species list of insects commonly associated with black locust, *Robinia pseudoacacia* L., in the southern Appalachians. Superscripts refer to footnotes at the bottom of this table.

borers, bark & phloem -

beetles

*Agilus egenus* Gory (Buprestidae)<sup>1,3,8</sup>

*Hypothenemus obscurus* (Fabricius) (Scolytidae)<sup>8</sup>

borer, root -

moth -

*Elasmopalpus lignosellus* (Zeller), lesser cornstalk borer (Pyralidae)<sup>1,pi,gn1</sup>

borers, twig & shoot -

moth -

*Ecdytolopha insiticiiana* Zeller, locust twig borer (Olethreutidae)<sup>ver,com,spc</sup>

beetle -

*Amphicerus cornutus* (Pallas), powderpost bostrichid (Bostrichidae)<sup>1</sup>

borers, wood -

moth -

*Prionoxystus robiniae* (Peck), carpenterworm (Cossidae)<sup>1,ver,inf</sup>

beetles -

flathead borers (Buprestidae)<sup>1</sup>

*Lichenophanes bicornis* (Weber) (Bostrichidae)<sup>1,ver,occ</sup>

*Lyctus* spp., powder post beetles (Lyctidae)<sup>1</sup>

*Cryptarcha ampla* Erichson, [sap beetle] (Nitidulidae)<sup>3,ver</sup>

*Megacyllene robiniae* (Forster), locust borer (Cerambycidae)<sup>3,ver,com,spc</sup>

*Hypothenemus obscurus* (Fabricius), apple twig beetle (Scolytidae)<sup>8</sup>

*Xyleborus affinis* Eichhoff (Scolytidae)<sup>8</sup>

gall insects -

moth -

*Ecdytolopha insiticiiana* Zeller, locust twig borer (Olethreutidae)<sup>ver,com,spc</sup>

flies -

*Dasineura pseudacaciae* (Fitch), [locust midge] (Cecidomyiidae)<sup>ver,com,spc</sup>

- Obliodiplosis robiniae* (Haldeman), [locust gall midge] (Cecidomyiidae)ver,com,spc
- leaf feeders -
- walkingstick -
- Diapheromera femorata* (Say) (Phasmatidae)8,gnl
- lepidopterans -
- Lagoa crispata* Packard, crinkled flannel moth (Megalopygidae)1,8,inf,gnl
- Nephoterix subcaesiella* (Clemens), locust leaf roller (Pyralidae)1,spc
- N. virgatella* (Clemens) (Pyralidae)1,8,spc
- Archips argyrospila* (Walker), fruittree leafroller (Tortricidae)1,occ,gnl
- Agonopterix robiniella* (Packard) (Oecophoridae)2,8,10,spc
- Chrysaster ostensackenella* (Fitch), [Osten Sacken's leafminer] (Gracilariidae)2,3,8,10
- Parectopa robinella* Clemens, [locust digitate leafminer] (Gracilariidae)2,8,10,spc
- P. lepedezaefoliella* Clemens (Gracilariidae)3,spc
- Phyllonorycter robiniella* (Clemens), [autumnal locust leafminer] (Gracilariidae)2,3,8,10,spc
- Thyridopteryx ephemeraeformis* (Hayworth), bagworm (Psychidae)3,8,occ,gnl
- Biston betularia* L., [cleft-headed spanworm] (Geometridae)1,8,occ,gnl
- Heliomata cycladata* Grote, [locust stout looper] (Geometridae)2,spc
- Pero honestarius* (Walker) (Geometridae)1,8
- Semiothisa ocellinata* (Guenee), [locust looper] (Geometridae)2,8,spc
- Lophocampa caryae* (Harris), hickory tussock moth (Arctiidae)8,gnl
- L. maculata* (Harris), spotted tussock moth (Arctiidae)8,gnl
- Euparthenos nubialis* (Hubner), [locust underwing] (Noctuidae)ver,com,spc
- Zale undularis* (Drury), [locust false looper] (Noctuidae)2,spc
- Schizura concinna* (J.E. Smith), red-humped caterpillar (Notodontidae)8,occ,gnl
- Dasylophia anguina* (J.E. Smith), [anguina moth] (Notodontidae)8,ver,occ
- Automeris io* (F.), Io moth (Saturniidae)1,8,inf,gnl
- Epargyreus clarus* (Cramer), silverspotted skipper (Hesperiidae)ver,com,spc
- beetles -
- Popilia japonica* Newman, japanese beetle (Scarabaeidae)ver,com,gnl
- Agrilus egenus* Gory (Buprestidae)1,3,8
- Epicauta cinerea* (Forster), clematis blister beetle (Meloidae)8
- Anomoea laticlavata* (Forster), claycolored leaf beetle (Chrysomelidae)8
- Derocrepis carinata* (Linell), [flea beetle] (Chrysomelidae)5,ver,com
- D. erythropis* (Melsheimer) (Chrysomelidae)5
- Diabrotica* spp., cucumber beetles (Chrysomelidae)1,pi,gnl
- Odontota dorsalis* (Thunberg), locust leafminer (Chrysomelidae)ver,occ,spc
- O. nervosa* (Panzer) (Chrysomelidae)3,spc
- sawflies -
- Nematus abbottii* (Kirby) (Tenthredinidae)ver,com,spc
- N. tibialis* Newman (Tenthredinidae)ver,com,spc
- sucking insects -
- plant bugs -
- Lopidea heidemanni* Knight (Miridae)ver,com,spc
- L. robiniae* (Uhler) (Miridae)ver,com,spc
- stinkbug -
- Acrosternum pennsylvanicum* (DeGeer) (Pentatomidae)2
- treehoppers -
- Ceresa brevicornis* Fitch, (Membracidae)2,ver
- Enchenopa binotata* (Say), twomarked treehopper (Membracidae)2,9,ver
- Micrutalis calva* (Say) (Membracidae)2
- Spissistilus festina* (Say), threecornered alfalfa hopper (Membracidae)1,ver
- Thelia bimaculata* (Fabricius) (Membracidae)7,ver,com,spc
- Vanduzeeea arquata* (Say) (Membracidae)6,7,ver,com,spc

- leafhoppers -  
*Empoasca mali* (LeBaron) (Cicadellidae)<sup>2</sup>  
*E. querci* (Fitch) (Cicadellidae)<sup>2</sup>  
*E. unica* (Provancher) (Cicadellidae)<sup>2</sup>
- planthoppers -  
*Ormenis pruinosa* (Say) (Flatidae)<sup>2</sup>  
*Acanalonia conica* (Say) (Acanaloniidae)<sup>2</sup>
- aphids -  
*Aphis craccivora* Koch, cowpea aphid (Aphidae)<sup>8,ver,com</sup>
- scales -  
*Diaspidiotus ancylus* (Putnam), Putnam scale (Diaspididae)<sup>1,8,inf</sup>  
*Parthenolecanium corni* (Bouche), European fruit lecanium (Coccidae)<sup>1,8,inf</sup>  
*Pulvinaria innumerabilis* (Rathvon), cottony maple scale (Coccidae)<sup>1,8,inf</sup>
- mite -  
*Tetranychus schoenei* McGregor, Schoene spider mite (Tetranychidae)<sup>8</sup>
- seed predators -  
beetles -  
*Spermophagus hoffmannseggii* Gyllenhal, [locust pod borer] (Bruchidae)<sup>1</sup>  
*Apion* spp. (Curculionidae)<sup>1</sup>
- general predators -  
assassin bug -  
*Acholla multispinosa* (DeGeer) (Reduviidae)<sup>3</sup>
- ants -  
*Crematogaster lineolata* (Say) (Formicidae)<sup>2,6,ver</sup>  
*Formica integra* Nylander (Formicidae)<sup>6,ver,com</sup>  
*F. subsericea* Say (Formicidae)<sup>6,ver,com</sup>

1. Schaffner (1953) supplement to Craighead (1950)
2. Rose and Lindquist (1982)
3. Garman (1916)
4. Hoffard and Anderson (1982)
5. Riley (pers. comm.)
6. Fritz (1982)
7. Funkhauser (1915a,b)
8. Baker (1972)
9. Matusch (1912)
10. Weaver and Dorsey (1967)

- ver = Verified by author as present on *R. pseudoacacia* in the Southern Appalachians  
com = Common on *R. pseudoacacia*  
occ = Occasional on *R. pseudoacacia*  
inf = Infrequent on *R. pseudoacacia*  
pi = Probably incidental on *R. pseudoacacia*  
spc = Specialist on *R. pseudoacacia*  
gnl = Generalist herbivore whose foodplants include *R. pseudoacacia*

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